

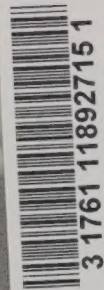
Incorporated in the penthouse is a 150-seat auditorium while the observation lobby is decorated with an abstract canvas mural (37 feet by 10 feet) painted by Toronto artist Harold Town and giving his impression of the development of power.

PRDA23013-110M-Printed in Canada



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Guide to the Robert H. Saunders  
hydro-electric generating station



## the international seaway and power project

Penetrating over 2,000 miles into the industrial and agricultural heart of North America, the St. Lawrence system has long been a vital

trade artery. Now the historic river is also an important source of hydro-electric energy for the industry and people it serves.



Canadian and American engineers set out at Cornwall in 1954 to tame the formidable rapids of the St. Lawrence. It meant building three huge dams and miles of dykes. But in four years electricity was flowing from two adjoining power stations, one in Canada and the other in the United States.

Generators on the Canadian side of the river feed into Ontario Hydro's grid system. Their capacity totals more than 900,000 kilowatts, equal to the needs of about 600,000 homes.

The Canadian power station is named after the late Robert H. Saunders, a former chairman of Ontario Hydro and leading advocate of the project.

The plant's American counterpart, adjoining Barnhardt Island, is the Robert Moses Power Dam. Construction costs of \$600,000,000 were shared by Ontario Hydro and the Power Authority of the State of New York.

Flooding of the huge headpond area called for a vast removal program. Homes and even cemeteries were relocated. Eight Canadian communities were affected and Ontario Hydro built new shopping centres, schools, churches, roads, sidewalks, waterworks, sewage treatment plants, and recreation areas for the 6,500 persons displaced. Only farm families and cottage owners were involved on the sparsely populated American side.

Both stations were opened in 1958 while a monument at the international boundary line on the powerhouse structure was unveiled by Queen Elizabeth in June, 1959.

Inscribed on a huge slab of black granite are these words: "This stone bears witness to the common purpose of two nations, whose frontiers are the frontiers of friendship, whose ways are the ways of freedom, and whose works are the works of peace."

Three dams and 16 miles of dykes utilize the drop in water level between Lake Ontario and the powerhouses, 125 miles downstream.

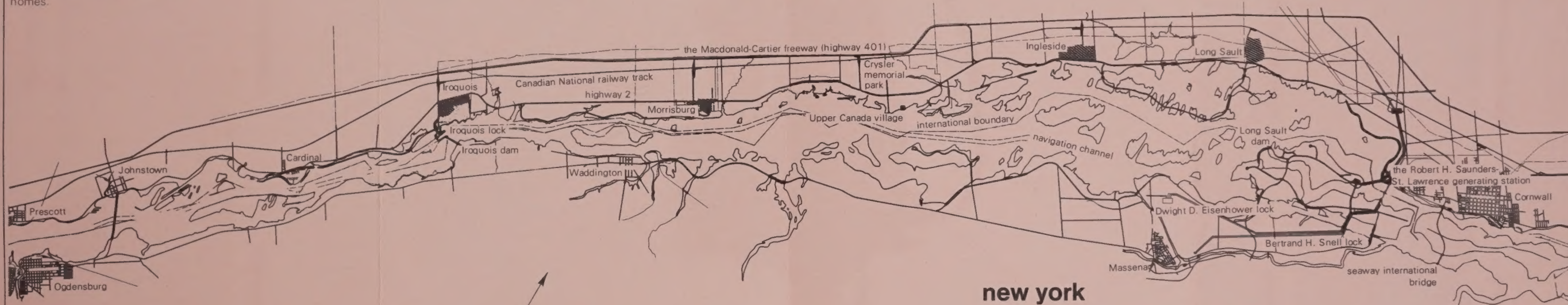
The main dam and powerhouses form a continuous structure 3,300 feet long. Generators are not housed in conventional superstructures, but are protected by removable hatch covers.

Long Sault dam is about three miles upstream from the powerhouses and blocks off a former channel of the St. Lawrence. It stretches 2,960 feet from the western end of Barnhart Island to the U.S. mainland.

Iroquois dam spans the river between Point Rockway in the U.S. and Iroquois Point in Canada, about 25 miles upstream from Long Sault dam. It is 2,250 feet long, 72 feet high and controls the flow of water from Lake Ontario.

The dykes contain the water storage area now known as Lake St. Lawrence. They stretch along the New York State shoreline west from the main dam and along the Ontario shore north and west of the dam.

Major construction included improvement of the Seaway channel between Prescott and Cornwall. The enlarged channel aids navigation and improves power production in winter when ice forms over Lake St. Lawrence.



## living history

Situated in an important tourist area, the Robert H. Saunders-St. Lawrence generating station attracts more than 100,000 visitors a year. Only 15 miles to the west is Upper Canada Village, which owes its existence to the power development and Seaway.

Historic homes, churches, mills, taverns and shops were saved from flooding, restored to their original condition, and relocated in the village to present a living tableau of early Canada.

Campsites, picnic areas and beaches abound in the miles of parkland under development along the St. Lawrence.

## some facts

Canada and U.S.

number of turbines	32 (75,000 BHP, 94.7 rpm)
number of generators	32 (60,000 KVA, 60 c/s, 13,800 volts)
total capacity	1,824,000 kilowatts
main dam	3,300 ft. long
powerhouse height	167 ft.
average head	83 ft.
average flow	240,000 cu. ft. a sec.
headpond area	100 sq. miles
watershed area	298,000 sq. miles

## power recipe

Structures on both sides of the river required 6,400,000 tons of concrete, 2,000,000 tons of sand, 3,200,000 tons of stone, 28,000 tons of structural steel, 59,300 tons of reinforcing steel and 3,600,000 barrels of cement.